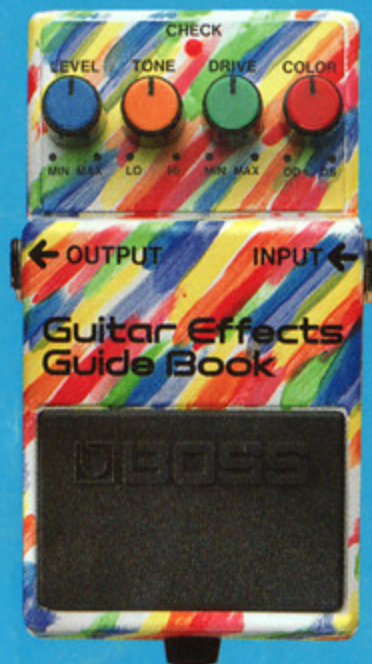




BOSS

GUITAR

EFFECTS

GUIDE BOOK

Vol.8

a sound innovator
BOSS

Printed in Japan RAM-2033 '92 NOV DAN-SE

a sound innovator
BOSS

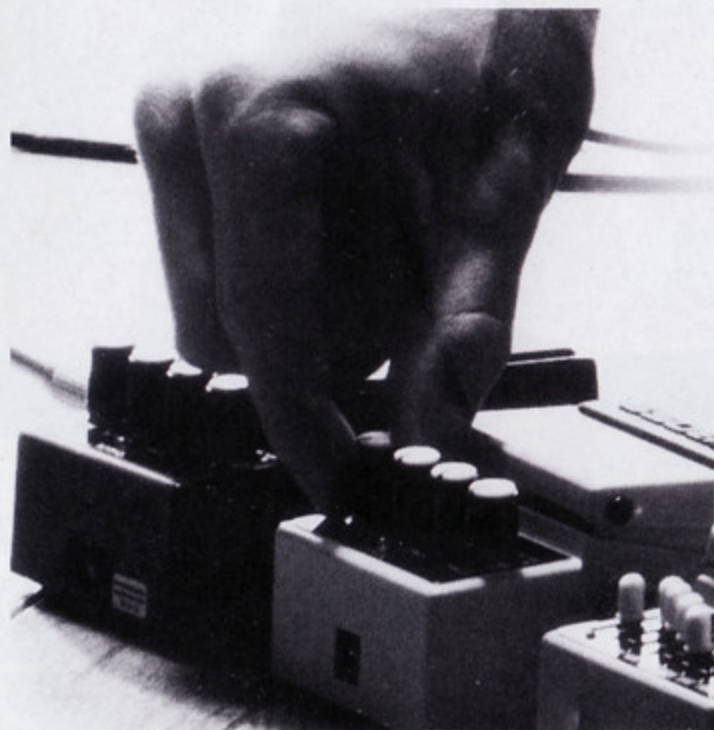
In all, BOSS offers 28 different compact effect pedals. That's a lot, but more important than quantity is quality—making your performance the best it can be. Most of these BOSS products are bestsellers. That's because each was designed for players everywhere who, like BOSS, are always searching for the latest sounds, and the best sounds.

GUITAR EFFECTS GUIDE BOOK

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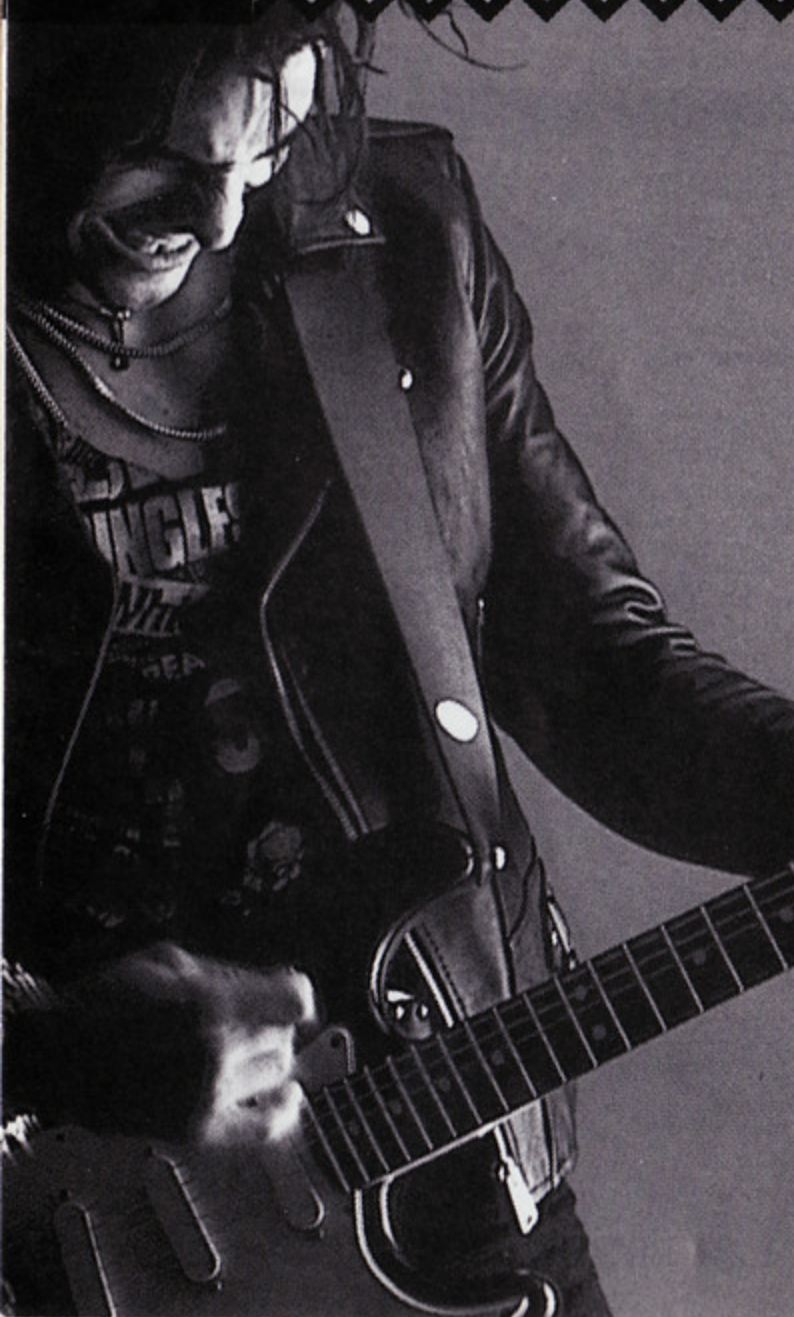
B BOSS EFFECTS GUIDE

BOSS offers an extensive selection of effect units. The table below shows the type and function of each unit.



■ EFFECT TABLE

	FUNCTION	EFFECT NAME	EFFECT PRODUCED	MODEL NO.	PAGE
1	Adds distortion	Overdrive and Distortion	Overdrive simulates the effect of an overdriven tube amplifier, and is touch-sensitive. Distortion produces a harder, metallic sound with many upper harmonics.	SD-1	5
				OD-2	6
				DS-1	7
				DS-2	8
				OS-2	9
				HM-2	10
				MZ-2	11
				MT-2	12
2	Adds acoustic dimension to sounds	Delay	Samples the original signal and plays it back slightly later, simulating the natural "echo" that occurs in acoustical spaces.	DD-3	14
3	Modulates and doubles sounds for added depth	Chorus	Combines a slightly delayed signal with the original signal and modulates it to create a thick, detuned, shimmering sound.	CE-5	17
		Flanger	Electronically creates a slight delay and combines it with the original signal to add a swirling "doubled" effect.	CH-1	18
				CE-2B	48
		Phaser	Combines an out-of-phase signal with the original signal for a sound similar to that of a rotary speaker.	BF-2	19
		Tremolo	Varies the volume of the signal for a pulsating effect as found on vintage amps.	BF-2B	49
				PN-2	20
		Panning	Moves the sound between left and right channels.		21
4	Changes tonality of sounds	Equalizer	Boosts or cuts a particular frequency band for flexible tone control.	GE-7	23
		Enhancer	Adds clarity to sounds by dynamically enhancing the upper harmonics.	PQ-4	24
				GE-7B	47
		Wah	Produces a distinctive "wah wah" effect by boosting/cutting a specific frequency range.	EH-2	25
5	Regulates gain levels	Compressor	Reduces the output of sounds above a certain threshold relative to the strength of the input signal, making levels consistent and improving sustain.	AW-2	26
		Limiter	Limits the peak levels of sounds to precisely that of the threshold level.	FW-3	27
6	Changes pitch of sounds	Octave	Creates a signal one or two octaves lower than the original signal.	CS-3	29
		Pitch shifter	Shifts the pitch of the original sound to various intervals.	LM-2B	46
7	Reduces noise	Noise suppressor	Eliminates noise caused by connecting of multiple effect units or high gain.	OC-2	31
8	Changes connection	Line selector	Controls switching from solo to backing and also amp selection.	PS-2	32
				NS-2	33
				LS-2	34



• **The distortion effect electronically simulates the sound produced by an overdriven amplifier.**

• **Overdrive and distortion**
Distortion effect units can be put into two categories: Overdrive and Distortion. Overdrive units produce mild, warm distortion similar to the sound of an overdriven tube amp, while Distortion units create a much harder distortion effect used in hard rock and heavy metal. BOSS offers nine kinds of Overdrive and Distortion units, so you can choose the one that best fits your instrument and playing style.

Tip

How to make effective distortion settings

Turn your guitar volume all the way up, and use the effect volume control to adjust the difference in volume when the unit is on or off. The overall volume should be controlled on your amp. If you try to set the overall volume using the effect volume control, it could cause a sudden burst of volume or unwanted feedback when

you switch the effect on.

Since distortion can blur the clarity of picking or attacks, users sometimes overcompensate by adjusting the tone control to the point of affecting the overall sound. When you're adjusting your sound, you should listen to it from several different places, not just where you stand on stage.

Tip

Guitar output level influences distortion effect

The distortion strength depends on the output level of your guitar. Even using the same overdrive unit can yield very different results when used

with different type of pickups, such as single-coil or Humbucking pickups.

SD-1

SUPER OverDrive

The SD-1 produces the warm, smooth distortion of an overdriven tube amplifier while maintaining the subtle nuances of your picking technique. BOSS's unique asymmetric overdrive circuitry delivers a genuine overdrive effect for a classic guitar sound. A tone control is also furnished for precise tonal adjustment.

USING THE SD-1



● **To produce a mild overdrive sound:**
Set the DRIVE control at a lower level and avoid excessive TONE levels. Good for a bluesy sound.



● **To produce a hard overdrive sound:**
Turn the DRIVE all the way up and boost the highs with the TONE control.



● **For rock'n roll guitar:**
Set the DRIVE at a lower level and emphasize the highs with the TONE control. This smooth overdrive sound is ideal for a classic rock'n roll sound.

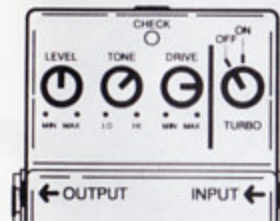


OD-2

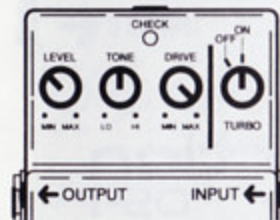
TURBO OverDrive

Incorporating two overdrive circuits, the OD-2 gives you a choice of two different overdrive effects accommodating a broad range of performance styles, from light to hard rock. The TURBO Off mode provides a standard overdrive effect with mild distortion, and the TURBO On mode combines overdrive with screaming hard distortion.

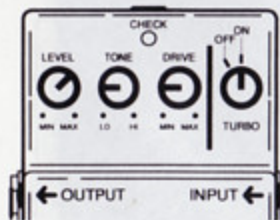
USING THE OD-2



● **For natural Overdrive:**
This setting is best for getting a warm, mild overdrive sound with lots of pick sensitivity.



● **For hard rock:**
This setting gives you a heavy distortion even when using single-coil pickups. Provides plenty of sustain for lead work.



● **For a mellow overdrive sound:**
This setting gives you a unique mellow overdrive that is great for chording.



DS-1

Distortion

The **DS-1** provides a harder distortion effect for guitar and keyboard sounds. Instead of toneless, fuzzy distortion, the **DS-1** faithfully reproduces all the subtle nuances of your playing dynamics from whisper quiet to screaming loud. The onboard **Tone Control** allows you to tailor the overall sound to your liking.

USING THE DS-1



● **Mild distortion:**
This setting gives you mild, mellow distortion. For best results, use your pickup closest to the neck.



● **Hard distortion:**
For this setting, you should use your bridge pickup. When the **TONE** level is raised, highs are strengthened and a powerful distortion effect results. Adjust the amp and guitar volume carefully to avoid excessive effect depth.

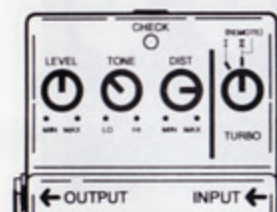


DS-2

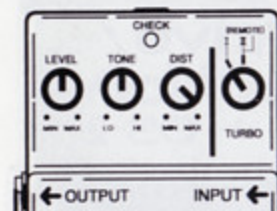
TURBO Distortion

The **DS-2** features twin **TURBO** modes. **TURBO Mode I** produces warm and mellow distortion with flat frequency response. The **TURBO Mode II** provides biting distortion with a mid-range boost that's great for leads. The built-in remote jack allows you to connect and external footswitch such as the **FS-5L** for instant, hands-free switching between modes.

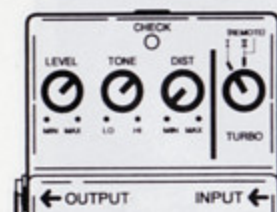
USING THE DS-2



● **For solo sounds:**
This setting gives you a cutting tube-amp overdriven sound.



● **For hard rock rhythm:**
This setting allows you to retain the clarity of individual notes while chording hard rock.



● **For light, natural distortion:**
This setting provides a slight grit similar to a classic tube amp. Set your guitar volume to a low level.

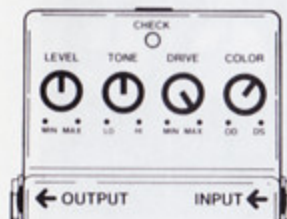


OS-2

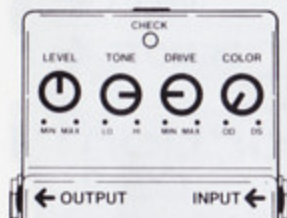
Over Drive/Distortion

The OS-2 gives you a choice of overdrive or distortion or lets you combine both—all in a single compact pedal. This integration gives you more options than by using serially connected units, and can provide hard distortion that maintains the subtle nuance of single-coil guitar pickups.

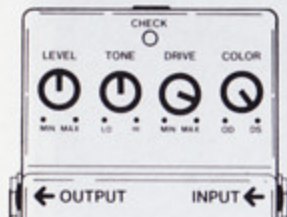
USING THE OS-2



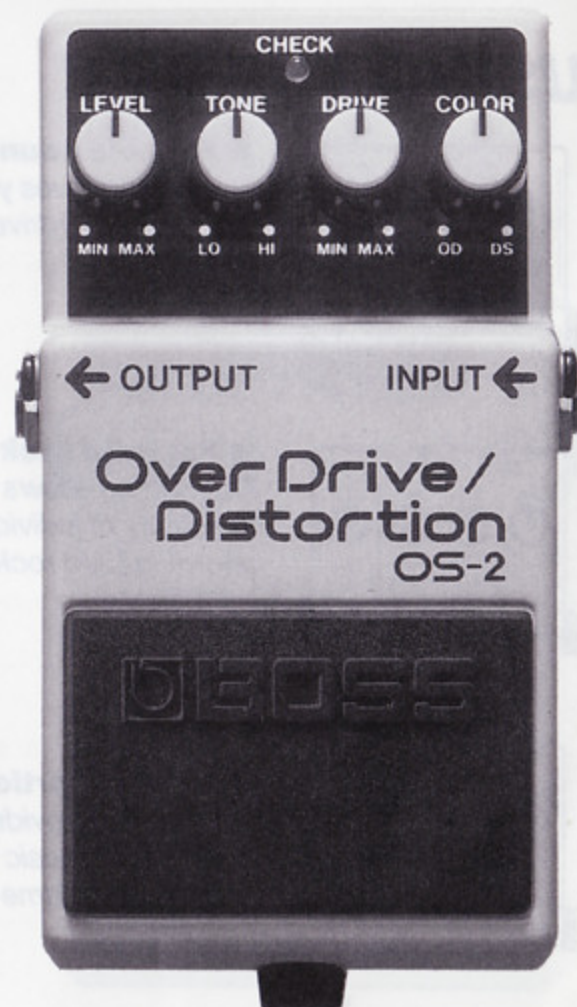
● **For warm distortion:**
This setting gives you thick and heavy distortion combined with a mild overdrive in the mid range.



● **70's Overdrive:**
Gives you a clear overdrive characteristic of the 70's sound.



● **For heavy rock:**
Turn the COLOR and DRIVE controls to maximum for a radical distortion sound.



HM-2

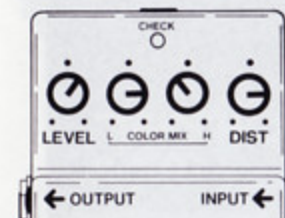
Heavy Metal

Super heavy, screaming distortion is reproduced by a state-of-the-art hard distortion circuit, while the nuances of the original tone are retained. A Color Mix control is provided for individually boosting low and high frequencies, offering a variety of distortion effects.

USING THE HM-2



● **For a metal sound:**
Boost highs and lows with the COLOR MIX controls to create a metallic sound with feedback.



● **For tube distortion:**
This gives you a fat sound with rich lows, ideal for heavy riffs or picking harmonics.



● **For hard rock rhythm:**
Set COLOR MIX L to a moderate setting to cut the lows appropriately.

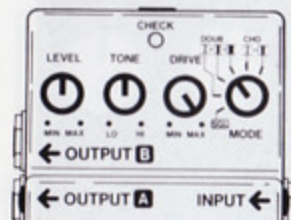


mZ-2

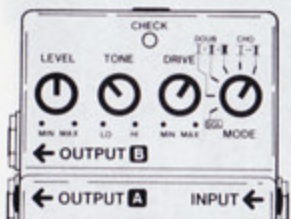
Digital Metalizer

The MZ-2 integrates distortion with stereo digital effects such as chorus and doubling, providing a thick, spacious effect. Six effect modes are available, and the MZ-2's stereo outputs enable an expanded stereo image.

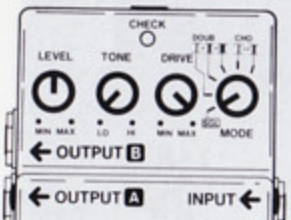
USING THE MZ-2



- **For metal solos:**
This setting creates a distinctive doubled sound by combining hard distortion and short delay.



- **Chorus Distortion:**
Gives you a rich, dimensional sound by adding digital chorus to a distortion sound.



- **For a miked amp sound:**
Cut highs from a hard distortion sound, and you can get a sound similar to the low end distortion of a miked amp.

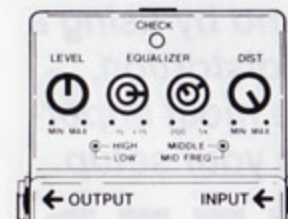


mT-2

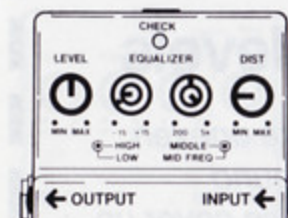
Metal Zone

Equipped with a newly developed dual gain circuit, the MT-2 provides super-long sustain and heavy mids and lows like a stack of overdriven amps. With three-band EQ, a wide range of distortion textures is at your command.

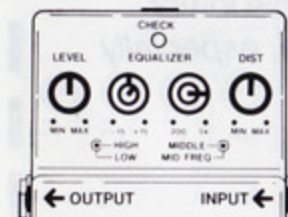
USING THE MT-2



- **For a fat metal sound:**
Boost the highs and lows with EQ. Great for metal solos and riffs.



- **For a scalding lead sound:**
Cut the lows and boost around 1kHz for a searing lead that will melt the walls.



- **For a "fuzz" sound:**
Boost the mid-frequency bands from 4kHz to 5kHz for a classic fuzz sound.



Adding acoustic space to sounds

Delay units electronically produce a delayed sound which is added to the original sound for a natural "echo" effect.

- **Delay**
- Digital delay has become very popular because of its clear sound and versatile setting applications. For example, you can create a really thick sound using a short delay, or create an expansive reverb-type sound by using a long delay. Besides distortion, delay is probably the most important effect to have in your setup.

Tip

Tempo-based delay effects

For a guitar solo, set the delay time to quarter notes or eighth notes in the tempo of the song you're playing. A dotted eighth note delay time also produces an interesting effect.

Setting delay levels

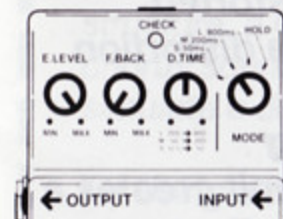
The delay effect can make uneven vibrato or string bends sound smooth, and can otherwise cover up inconsistent playing. For this reason, beginners may want to use lower levels when using effects, especially when practicing.

DD-3

Digital Delay

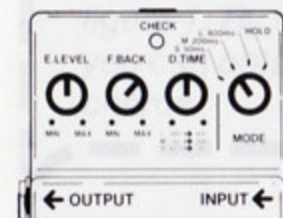
This compact pedal provides a digital delay effect with outstanding quality equivalent to that of a dedicated rack-mount delay unit. In addition to three delay time modes, a Delay Time control is furnished, giving you speedy, precise adjustment of delay time continuously within a range of 12.5ms to 800ms. The hold function repeats the delay indefinitely.

USING THE DD-3



• To produce a twin guitar sound:

Set the mode knob to 200ms. Turn the F.BACK control to MIN to get a single delay.



• For a reverb-type effect:

Great for starting a song with a hard rock guitar riff. Delay time ranges from 50 to 200ms.



• For a sitar-like effect:

Turn the F.BACK control to MAX, then connect a cord to the direct out and leave the other out disconnected.



Modulating and doubling sounds for added depth

These types of effects let you create a variety of different sounds, from brilliant, shimmering textures to sweeping jet-plane effects.

● Chorus

Chorus makes sounds thick and rich.

● Flanger

Flanger adds an "edge" to your sound, with a pitch-shifted, swirling effect. Combined with a distortion unit, you can produce

powerful jet-like effects. You can also create a chorus or delay effect using a flanger.

● Phaser

Phaser provides a unique effect similar to a rotary speaker. Also adds thickness to distorted sounds when using a distortion unit.

● Tremolo/Panning

A Tremolo/Panning unit creates a classic 60's tremolo effect or a stereo panning effect.



Using Chorus with other players

When a guitarist and a keyboard player are both playing with a chorus effect, the sound can become muddy. Sometimes it sounds better

to use clean, unaffected sound when playing with a chorused synth or electric piano.



Flexible use of Delay, Chorus, and Flanger

Chorus and Flanger units operate in a similar way to delay effects in that they sample the original signal and play it back slightly later. Since all three have a similar basic logic and structure, a delay unit can simulate a chorus sound and a flanger can simulate a delay sound.

(1) Using a delay unit to produce a chorus sound—
Set the delay unit to short delay as in figure 1. By varying the delay time you can obtain a sound similar to chorus.

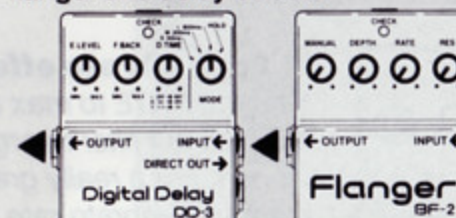
(2) Using a flanger to produce a short delay sound—
The short delay's dimensional sound is great for solos, especially when you want a thick sound. For another interesting effect, try increasing the depth and rate.

(3) A mixed sound of ultra-short delay and long delay is created by combining flanger and delay effects. A combination of a long delay produced by a delay unit and a short delay using a flanger can create a spacious effect.

● Using a flanger to produce a short delay sound.



● A mixed sound of ultra-short delay and long delay is created by combining flanger and delay effects.

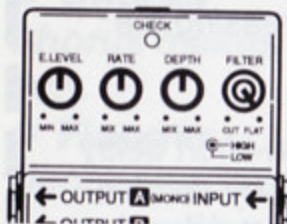


CE-5

Chorus Ensemble

The CE-5 chorus covers a wide frequency range and features high- and low-cut filters. This lets you create any kind of chorus effect from the clear and penetrating stereo chorus effect popular in contemporary music to a mild, natural chorus.

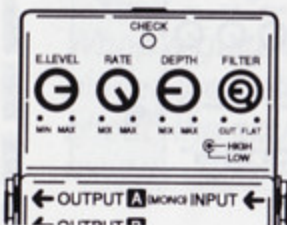
USING THE CE-5



- **For a contemporary chorus effect:**
Set both the high- and low-cut filters to flat for a contemporary chorus sound with a wide frequency response.



- **For a warm, vintage chorus:**
Use the two filters to cut both high- and low-bands.



- **For a vibrato effect:**
Turn the RATE to max and adjust the high-cut filter to produce mild vibrato. For a really great effect, match the vibrato rate to the tempo of the song you're playing.

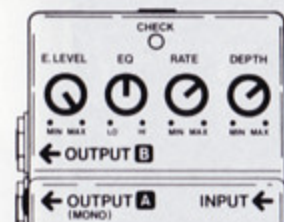


CH-1

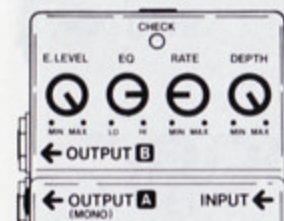
SUPER Chorus

The CH-1 is the latest chorus effect unit from BOSS, the pioneer of the chorus effect. The SUPER Chorus features sharp sounds with clear highs, and a stereo effect that varies depending on the spacing between the left and right speakers. The EQ function allows you to adjust the tonality from soft, mellow sounds to sharp, cutting sounds ideal for rhythm guitar.

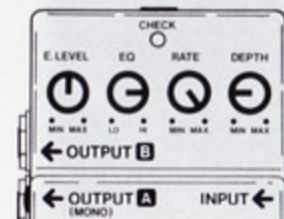
USING THE CH-1



- **To produce a popular chorus sound:**
Cut highs with EQ to create a milder chorus sound.



- **When playing arpeggios:**
Boost the highs with EQ to get a brilliant effect.



- **For guitar solos with vibrato:**
Try matching the chorus rate to the song tempo.

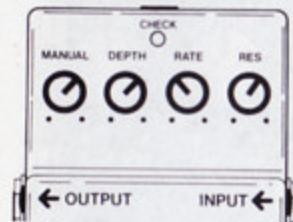


BF-2

Flanger

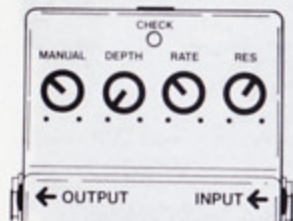
A flanging effect is produced by combining the original signal with an electronically delayed signal. Using four controls, you can tailor a variety of sounds from dynamic "jet-plane" effects to short delay, chorus and vibrato sounds. When the BF-2 is connected to a distortion unit, even more radical effects are at your command.

USING THE BF-2

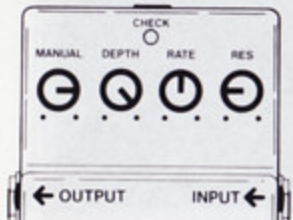


● **To produce a hard flanging sound:**

Combine the BF-2 with a distortion unit. Also adds density to metal music.



● **Metallic flanging:**
Increase the RES level and turn the DEPTH to 0 for a metallic flanging sound.



● **For a swirling chorus sound:**
Set RES to a low level and DEPTH to a high level.

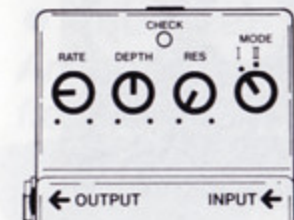


PH-2

SUPER Phaser

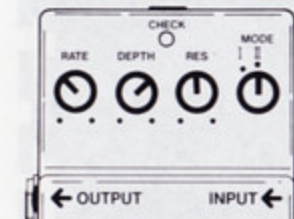
The PH-2 adds an effect similar to that of a rotary speaker, with a phase shift circuit that provides twelve stages of adjustment for smooth, professional-sounding phasing. Two modes give you completely different tonal characteristics; one for a standard effect, and the other for a deep, rich phased effect ideal for a funky guitar sound.

USING THE PH-2

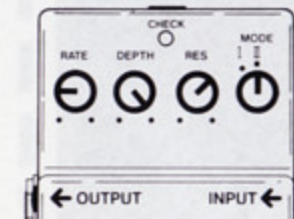


● **For chord work:**

Adds a light phase effect for smooth, full chords.



● **For reggae rhythms:**
Set Mode to II which gives you a sharp, intense sound using filtering.



● **For fusion and funk rhythms:**
Turn DEPTH all the way up for a deep phase sound. Provides a sound suitable for muted-picking rhythm techniques.

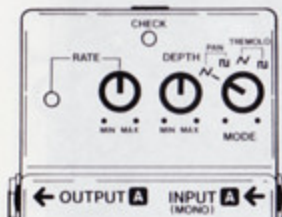


PN-2

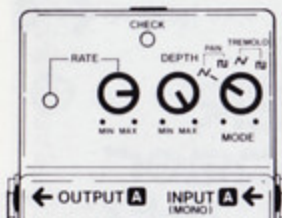
Tremolo/Pan

The PN-2 provides stereo panning and tremolo effects, each featuring triangular and square wave modes. When used with other effects such as chorus, outstanding sound field effects can be obtained. Rate controls give you more options, such as setting the tremolo rate to match the tempo of your rhythm guitar part.

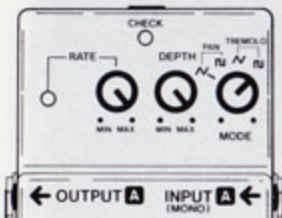
USING THE PN-2



• **For a panned guitar solo:**
Select the triangle mode for a smooth panning movement. Try saving this technique for the climax of your guitar solo.



• **For a panned electric piano sound:**
Use this setting with an electric piano sound to get a classic Rhodes sound.



• **For a staccato effect:**
This setting gives you a staccato tremolo effect. Try combining with a distortion unit for a unique effect.



4

Changing tonality of sounds

You can use these effect units to shape the tonality of your sound and eliminate unwanted feedback. Combining with other effects widens applications.

• **Equalizer**
An equalizer provides you with flexible sound-shaping capability

• by letting you boost or cut certain frequency bands over a wide range. It is also useful for adjusting the sound field and eliminating unwanted feedback.

• **Enhancer**
An enhancer modifies only the high-order harmonics, for a clear, brilliant sound.

Tip

GE-7+GE-7B= 14-band EQ

Combining the GE-7 for guitar and the GE-7B for bass gives you a 14-band graphic equalizer, enabling a wide range of tonal control.

Equalization adds a new dimension to guitar solos

When you use an equalizer before a distortion unit, connecting another equalizer after the distortion unit lets you add emphasis to certain frequencies to make solos "cut through."

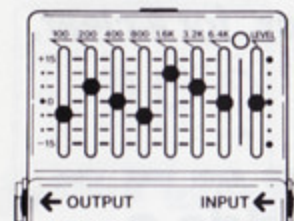


GE-7

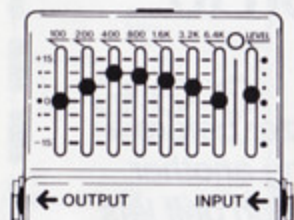
Equalizer

The GE-7 has seven bands ranging from 100Hz to 6.4kHz, ideal for guitar sounds, with boost/cut of $\pm 15\text{dB}$ per band. This lets you completely control your sound and eliminate unwanted feedback, particularly when connected after a distortion effect.

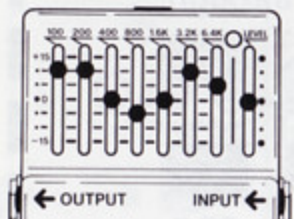
USING THE GE-7



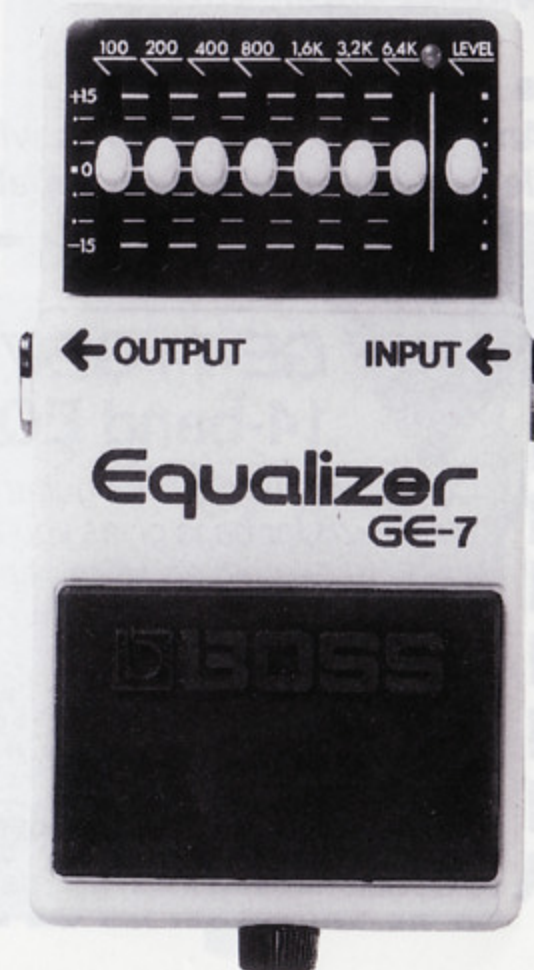
- **For sharp rhythm sounds:** Cut the middle frequency bands around 800Hz and boost at 1.6Hz.



- **For powerful guitar solos:** Boost the middle frequency bands slightly and connect the unit after distortion and overdrive. Set the LEVEL control a bit higher than normal.



- **For a metal sound:** Cut the middle band around 800Hz and boost the lower and higher frequency bands. Place the GE-7 after the distortion or overdrive unit.

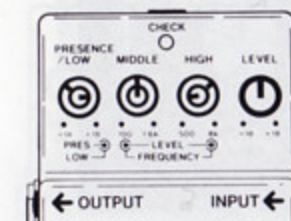


PQ-4

Parametric Equalizer

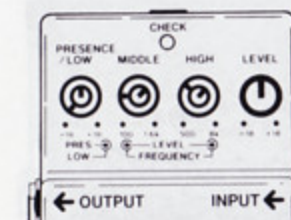
For the first time, a compact pedal with concentric knobs for presence and three frequency bands. Each frequency band and equalization curve is ideally suited for guitar use, and each control adjusts over a $\pm 18\text{dB}$ range. The PQ-4 allows users to get a variety of sounds comparable to using several guitar amps, or different types of pickups and guitars.

USING THE PQ-4

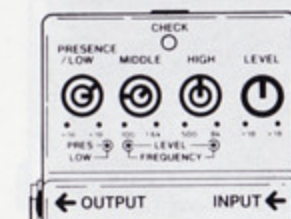


- **To change a strat-type sound to a telecaster-type sound:**

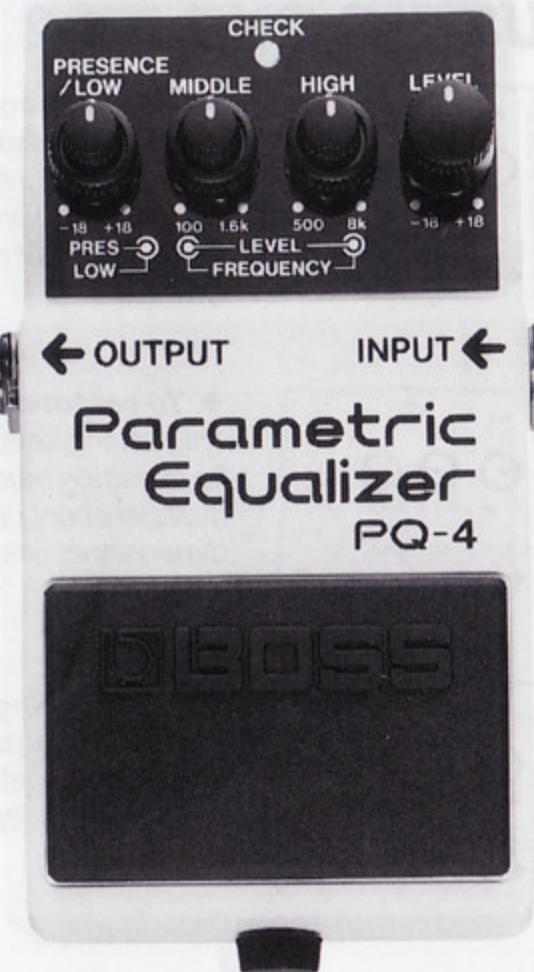
Boost the extreme high frequencies using the PRESENCE control and cut the highs a little to get a dry telecaster sound.



- **To produce an acoustic guitar sound:** Cut the extreme low frequencies using the PRESENCE control and boost the middle and high frequency bands to produce a warm sound.



- **To get the mid-range sound of a large amp:** Boost the extreme high frequencies with the PRESENCE control and boost the mid frequency band with the MIDDLE level and frequency controls.

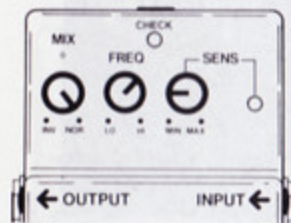


EH-2

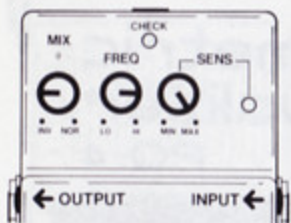
Enhancer

The EH-2 adds brilliance, dynamics and presence to sounds by dynamically modifying only the high-frequency harmonic components. This restores the clarity and delicate harmonic structures lost through signal processing with multiple effect units. The EH-2 adds life to any performance, whether lead or rhythm.

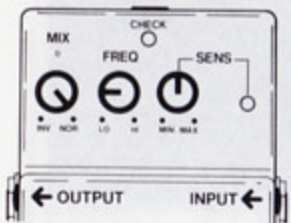
USING THE EH-2



- **To produce a sharp-edged rhythm sound:**
Strengthen the highs with the FREQ control and turn SENS to a low level to get a light enhancer-type effect.



- **To restore clarity:**
This setting keeps your sound from getting muddy when using multiple effect units or certain dimensional effect units.



- **For popping and slapping bass techniques:**
This setting enables dynamic popping and slapping for bass guitars.

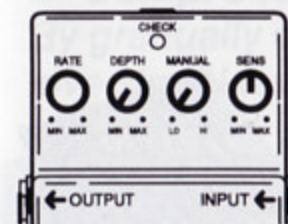


AW-2

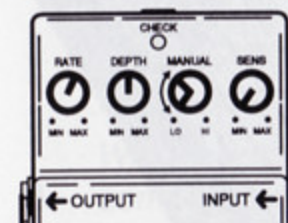
Auto Wah

The AW-2 delivers a wide variety of wah effects, including a dynamics-sensitive picking wah that changes with your picking strength and a modulation wah for automatic wah over a cycle of modulation. There's also an extra-powerful wah that combines the two effects. With Manual control, you can set the frequency point of the wah effect to get exactly the sound you want.

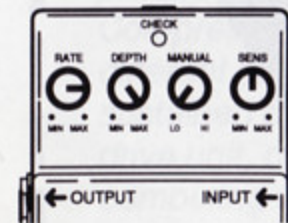
USING THE AW-2



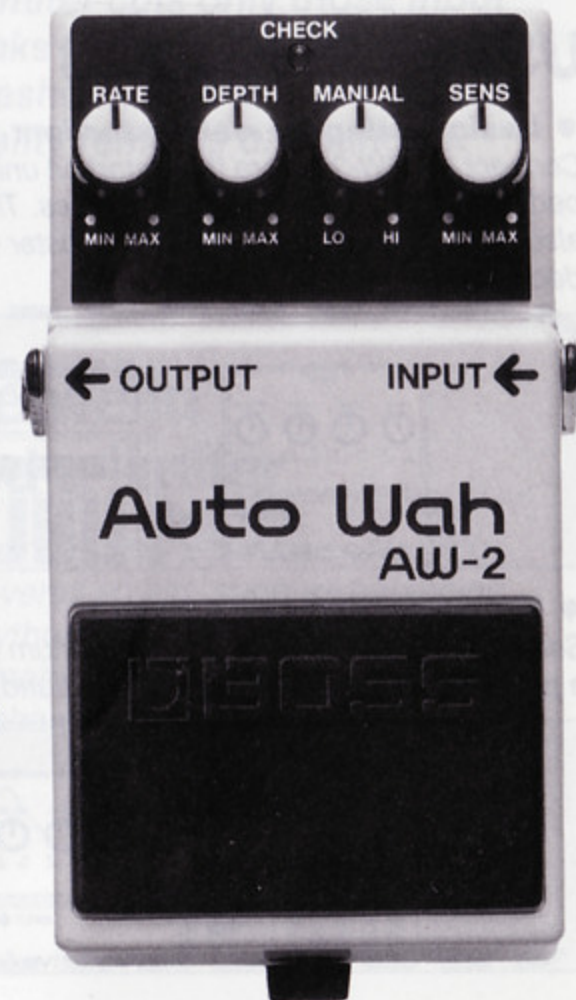
- **For picking wah:**
This allows you to control the wah effect with string picking strength. Adjust the SENS control to match your guitar's output level and playing style.



- **For modulation wah using MANUAL control:**
Use the MANUAL control to add a funky touch to the modulation wah. This setting is for when you want to add modulation wah in the low frequency range.



- **For a combination picking/modulation wah:**
For a wah effect that really stands out, use a setting that lets you use picking wah and modulation wah simultaneously. Adjust the SENS control so that modulation wah occurs during the decay of your sound.



FW-3

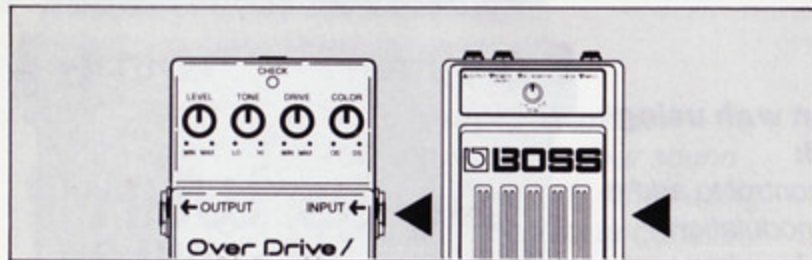
Foot Wah

The FW-3 is ideal for the classic wah-wah effect that's regaining popularity. The **PEAK** control gives a broad selection of wah effects from soft filtering to a sharp wah. By connecting a footswitch to the FW-3's Remote On/Off jack, you can easily switch the wah on or off, regardless of pedal position. The FW-3's durable diecast body and the large pedal allows smooth control over the wah effects.

USING THE FW-3

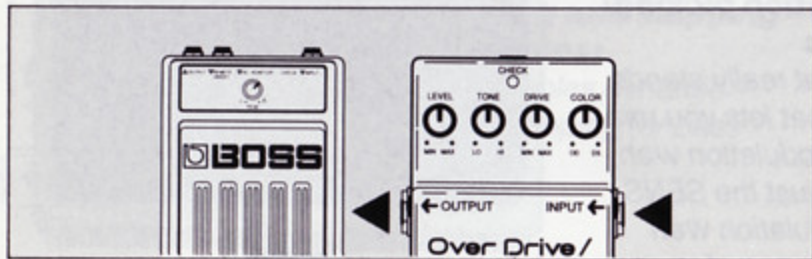
• Basic setting for wah distortion:

Connect the FW-3 before the distortion unit and use the pedal to add tone color to your phrases. The FW-3 can also be used as a midrange peak booster with the pedal depressed halfway.



• For an intense wah effect:

Set the FW-3's PEAK control to maximum to add a powerful wah effect to a distorted sound.



5

Regulating gain levels

Compressors and limiters eliminate excessive peaks and boost low input signals to balance the overall output level.

• Compressor

By gradually compressing excessive signal levels and boosting

low input levels, a compressor provides a superior sustain effect without unwanted distortion.

• Limiter

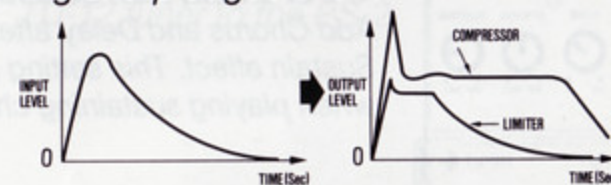
A limiter cuts only those input peaks that are above a certain threshold, so the basic sound quality remains unchanged.

Tip

The difference between a compressor and a limiter

While a limiter cuts only the peaks, a compressor can be used to compress the entire signal and to produce a sustaining effect. Compressors are used to create different sounds—a mellow sound, sustained overdrive using an overdrive unit, or synth-like sounds by combining with a chorus effect. A

limiter is mainly used for controlling an overall sound, such as balancing a rhythm sound, keeping an amp or VU meter from overloading, or blunting sharp edges of sounds.

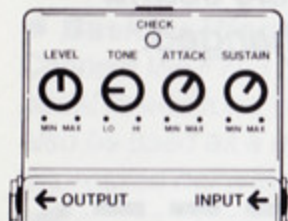


CS-3

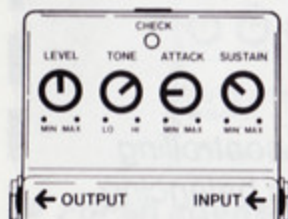
Compression Sustainer

The CS-3 compresses high input signals while boosting low input signals, giving you smooth sustain without degrading the quality of the original sound. A range of effects from gentle compression to "squeezed" sounds is at your command. Designed for outstanding low-noise performance, the CS-3 also provides EQ for precise sonic control.

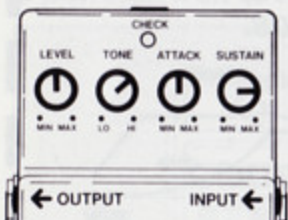
USING THE CS-3



● **For a mellow sound:**
This setting is ideal for solos in ballads or mellow songs. Add a chorus effect for even more depth.



● **For chord work:**
This setting balances the volume of each string for smooth chord accompaniment.



● **For thick, rich sounds:**
Add Chorus and Delay after the Sustain effect. This setting is good when playing sustaining chords.



6 Pitch-altering effects

These effects alter the pitch of the original sound and output it with the original signal simultaneously.

● Octave

An octave creates a signal one or two octaves lower than the original signal. Combining these two signals allows a single guitar to simulate an octave unison with a

bass guitar.

● Pitch Shifter

A pitch shifter creates a pitch-shifted signal within the range of $\pm$ one octave and combines this with the original signal. This enables a variety of effects, including twin-guitar-type harmonies, a natural chorus effect without modulation, and octave unison.

Tip

Using an octave effect before a distortion unit

An octave effect can be used to create a monster distortion sound when connected before a distortion unit. To maintain accurate pitch, connect the Octaver as close as possible to the guitar in the signal chain.

Setting intervals with a tuner

You can easily set octaves or other pitch shift intervals by connecting a TU-12 tuner to the PS-2.

OC-2

Octave

Three separate tones are reproduced by the OC-2—the original tone, the original tone dropped by one octave, and the original tone dropped by two octaves. With just a single guitar, you can obtain sounds three octaves thick, and each part has a separate volume control. The OC-2 features natural, clear octave sounds with stable pitch even for staccato picking sounds.

USING THE OC-2



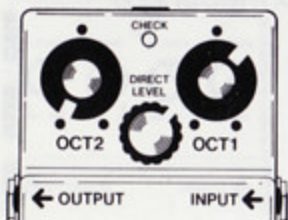
- **To simulate unison play of guitar and bass:**

Turn up the volume level of the OCT 2 to simulate playing in octaves with a bass guitar. Use with a distortion unit for thicker sound.



- **To simulate a guitar synthesizer:**

Turn the OCT 1 control all the way up to produce a thick sound.



- **For fat guitar riffs:**
- Turn up the volume of the OCT 1 and add distortion and overdrive effects.

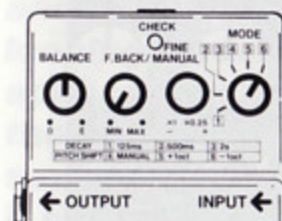


PS-2

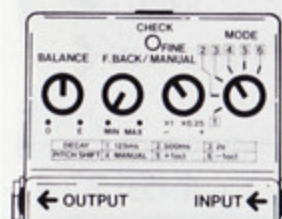
Digital Pitch Shifter/Delay

The PS-2 combines a $\pm$ octave-range pitch shifter and a delay with maximum 2-second delay time. The ultrahigh-speed circuitry virtually eliminates time lag between the original and effected sound, so you can get harmony effects or guitar synth-type sounds. Connecting the TU-12 Chromatic Tuner lets you visually tune the shifted pitch.

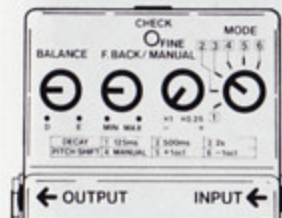
USING THE PS-2



- **For a thick, rich sound:**
- Combine the original signal with a tone one octave lower. Use distortion for an even thicker sound.



- **To produce a twin guitar sound:**
- Shift pitches to get intervallic harmony with a single guitar.



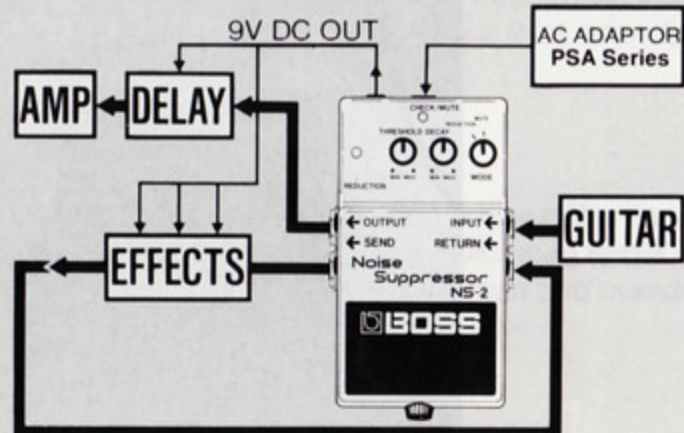
- **For a doubled effect:**
- Use the delay function to fatten up your sound.



NS-2 Noise Suppressor

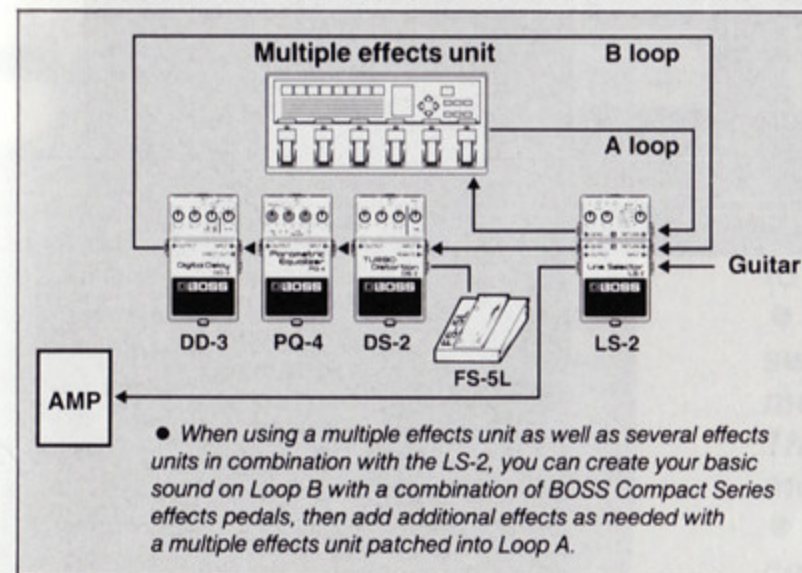
The NS-2 effectively eliminates noise and hum of the input signal while preserving the original sound's tonality. The natural attack and envelope are unaffected thanks to BOSS's unique noise detection circuit that precisely separates the guitar sound and the noise components. When connected to an AC adaptor, the NS-2 can supply power to other effect units in the system.

- Settings to achieve natural noise elimination.



LS-2 Line Selector

The LS-2 makes it easy to switch settings among several effects and to route input and output signals. Two line loops and six looping modes provide a wide variety of applications. Used with an AC adaptor, the LS-2 can also supply 9V DC power to several BOSS compact pedals. This makes it an ideal power supply and master switching unit for multiple effects setups.



- When using a multiple effects unit as well as several effects units in combination with the LS-2, you can create your basic sound on Loop B with a combination of BOSS Compact Series effects pedals, then add additional effects as needed with a multiple effects unit patched into Loop A.

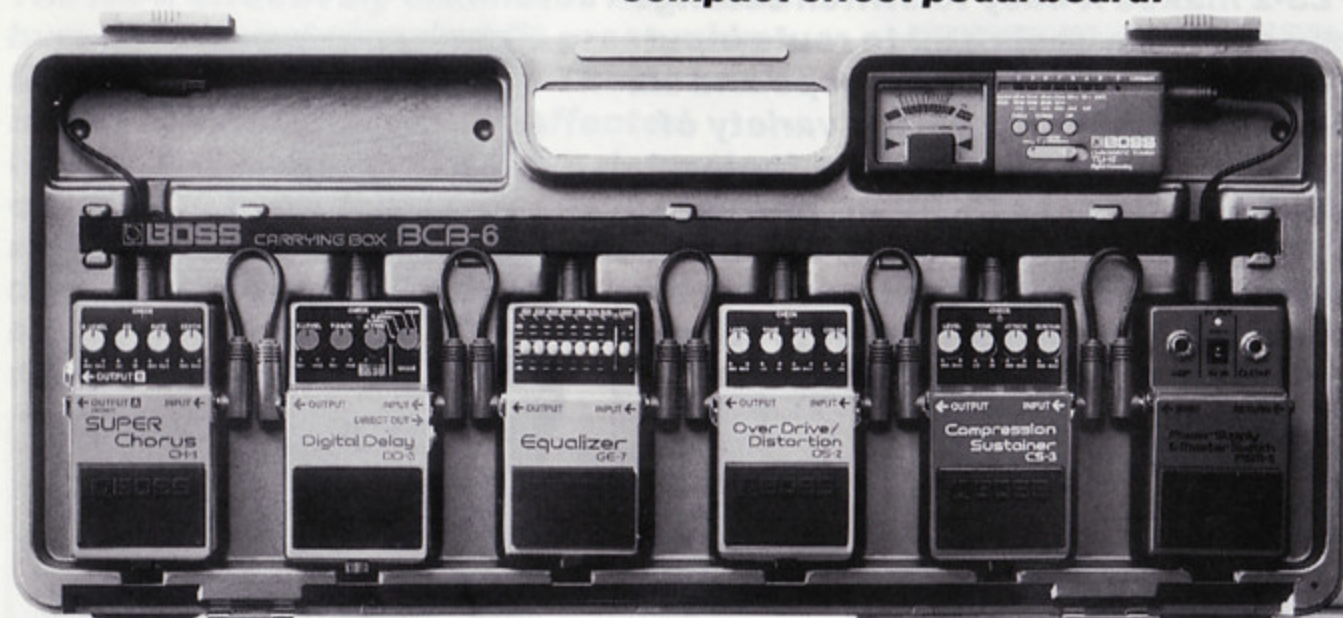
*PCS-20A 8-pin parallel DC cord available optionally.

CARRYING BOX

BCB-6

Carrying Box

Constructed of heavy-duty molded resin, this lightweight yet rugged carrying box stores up to six compact effect pedals for easy portability. You can keep all the pedals connected while in the box, so all you have to do when you get to the gig is open the lid and the BCB-6 becomes a compact effect pedal board.



Compact, lightweight and durable carrying box

- The handsome BCB-6 is compact and lightweight, making it easy to carry and set up. The durable construction withstands the rigors of the road.

Highly functional multi-effect board

- With the BCB-6, you no longer have to connect multiple effect units for every gig or studio session. Mounting effect units is a simple, one-time operation—just place each unit in the box and plug in.



PSM-5

Power Supply & Master Switch

- The PSM-5 supplies power for up to seven 9V effect pedals.
- Simply pressing the pedal lets you switch between the effect and normal modes of two or more effect pedals. The indicator lights in red for effect mode, and green for normal mode.
- An AC adaptor and a parallel DC cord for seven units are included.

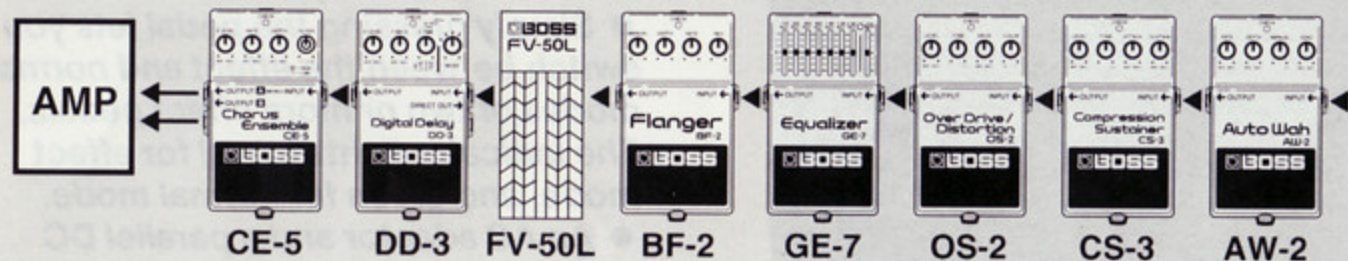
GETTING GREAT TONE



● A basic set-up that gets the best out of each effects unit

Use a compressor to tighten up your sound, add sustain, then apply distortion. Use the GE-7 to tonally tailor the distorted sound for searing mid-boost or to get a stack sound. Connect delay,

chorus and flanger effects after the distortion to enhance the sound and make it more spacious. Connecting the volume pedal before the delay allows delay effects even after the volume is cut. Add stereo chorus for even more spacious sound.

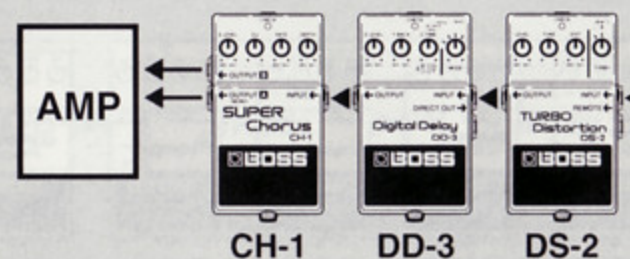


Once you understand what different effects units do and how they operate, you're ready to create some great sounds.

● Getting a good basic rock sound

This is a setup that's versatile enough to handle any music style. Use the DS-2 for your initial sound, then add some delay to get a more professional sound

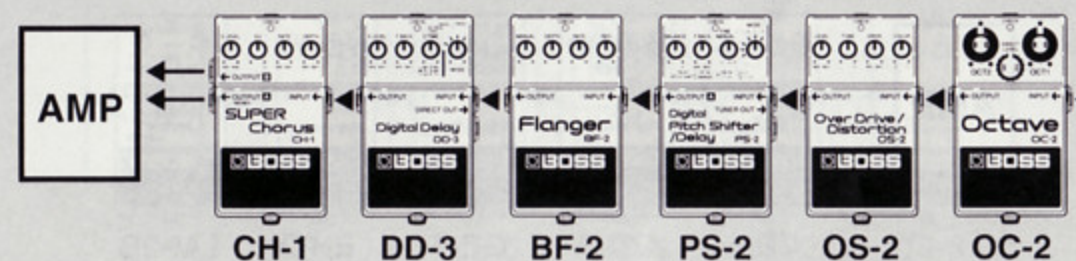
as that used by session guitarists. Add chorus to make the sound more spacious. For getting the best results from a stereo chorus effects unit, connect it last in the chain.



● Octave effects for a sophisticated sound

Try not to raise the level of the 2-octave down sound too much when using the OC-2. The PS-2 can also be used for

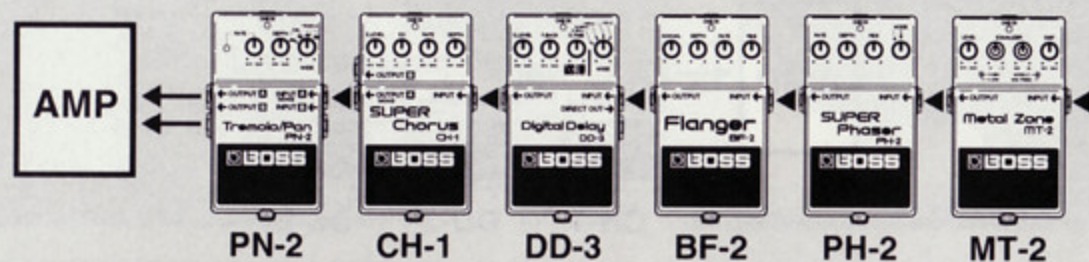
octave effects. If you add a little flanging you'll create a guitar synth-like sound. Set the delay to a 200ms or a longer delay time. For an amazingly spacious guitar sound, add some chorus.



● When you need hard distortion...

Use the MT-2 Metal Zone to add the thickest, metallic textures to your sound. The phaser and flanger can be used to add tremendous depth. Then set the delay time to about 35ms for

thick doubling, and add some chorus for opening up your sound. For a neat finishing touch, set Tremolo to the square wave mode and set Rate to match the sixteenth notes of the music.



● Recommended set-up for maximum clarity and for getting electric acoustic guitars to sound their best

For sharp, crystal-clear tones, or to get a fantastic electric acoustic guitar

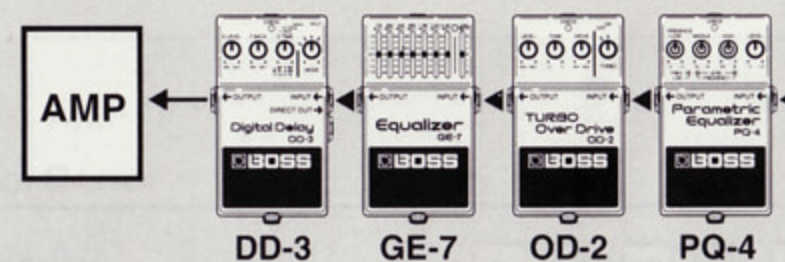
sound, try this. The enhancer adds brilliance and emphasizes tonal clarity. Use the graphic equalizer to cut unneeded lows. For adding depth to the sound you can use delay, and chorus will enhance the sound's spaciousness.



● Create a more complex sound using twin equalizer effects

Be surprised with the kind of rock guitar sound created using the following combination of effects. The key is using two different types of equalizers. Shape

your tone with the PQ-4 Parametric Equalizer and then add distortion with the OD-2 Turbo Overdrive. Refine the overall sound as precisely as you want with the extraordinary control provided by the GE-7 Graphic Equalizer.



● Tube-type distortion that's essential for 90's rock

The EH-2 adds more clarity and edge to your sound before it hits overdrive. Then add chorus with the CE-5, and use the low-cut filter for a more transparent

sound, or the high-cut filter for thick-sounding mids and lows. Add slapback with the DD-3, and set the delay time so that a quarter or eighth note repeats three or four times. When it's time to solo, use the CS-3 for maximum sustain.

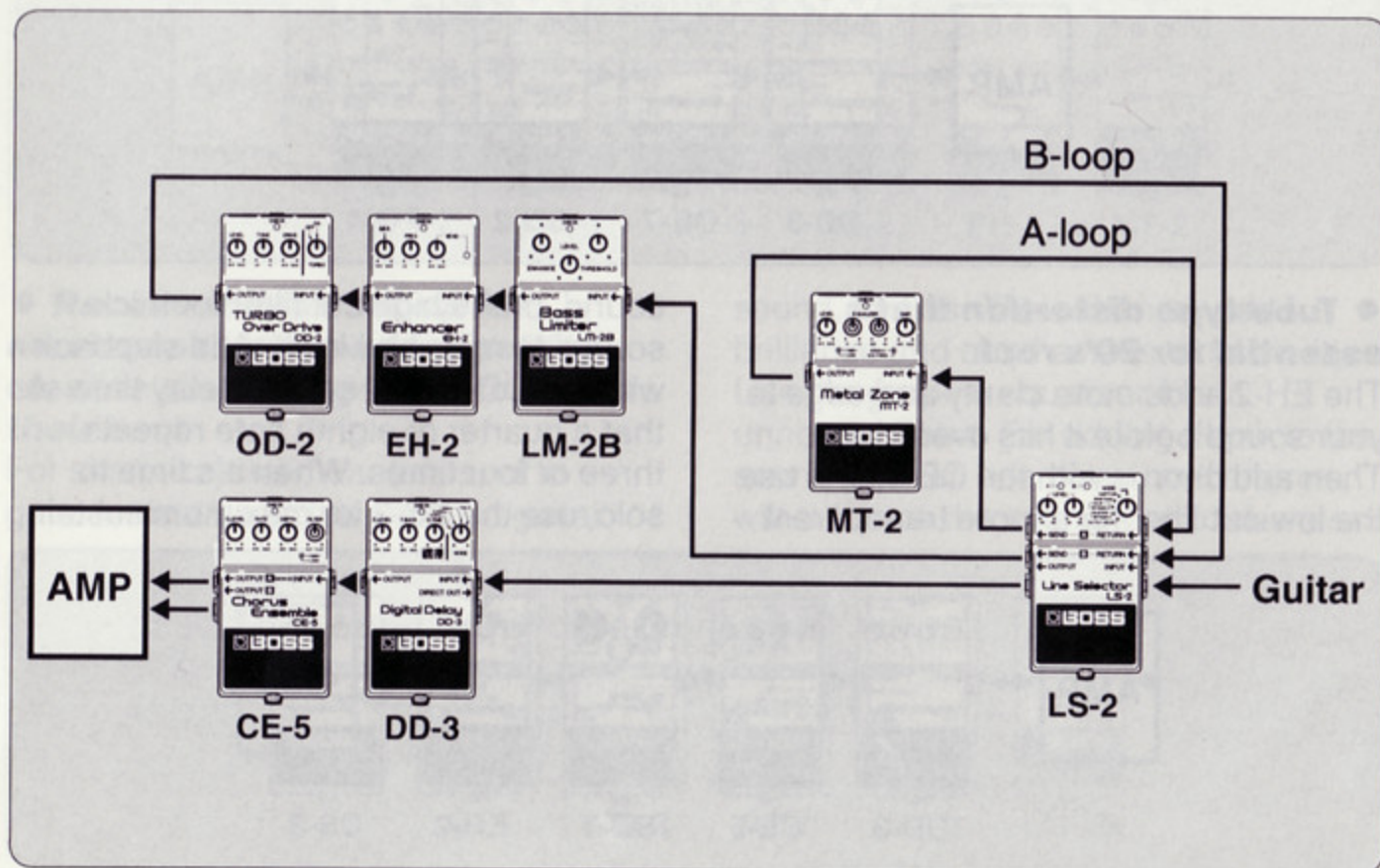


G GETTING GREAT TONE

● For instant switching between different sounds

Connect the MT-2 to the LS-2 A-loop. Connect the LM-2B and EH-2 to the B-loop for a brilliant, immediate sound that's closest to direct recording. Set

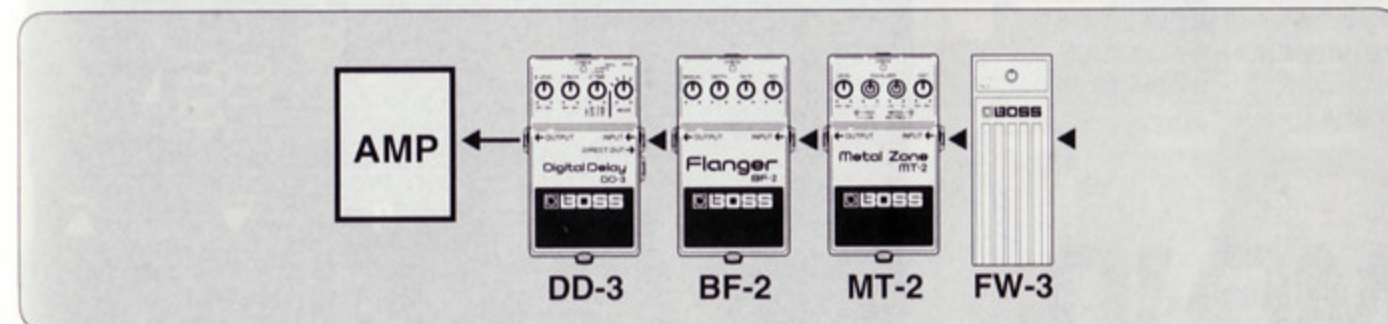
the LS-2 for the A/B Mix mode. With the DD-3, you can also add some delay at quarter or eighth notes, and add chorus with the CE-5 for an expansive feel. For solos, switch on the OD-2 in the B-loop.



● Create a heavy metal sound with unlimited power

Using the MT-2 adds awesome hard rock distortion for a solid, heavy and fat-sounding guitar tone. With the BF-2 Flanger, you can choose to use flanging

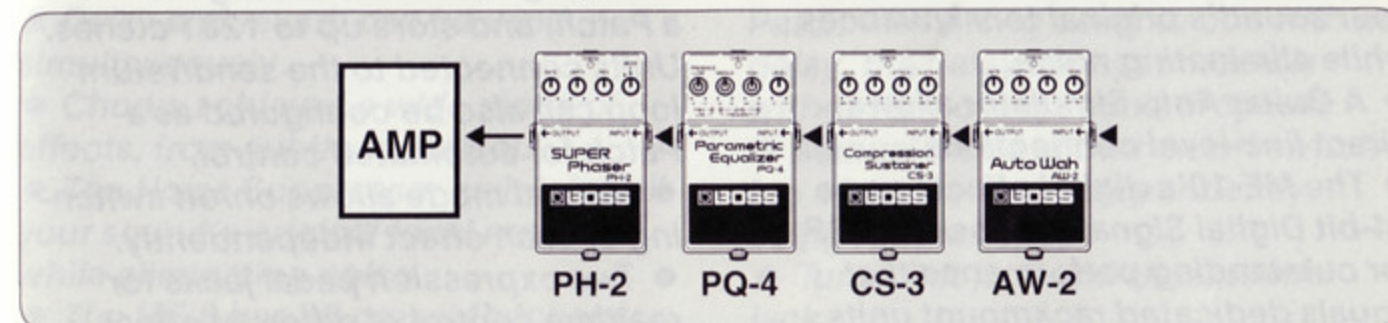
effects or use it to get a short delay that results in a thicker sound. The FW-3 Foot Wah can be used effectively to add vivid color to phrases or to emphasize midrange bite.



● For that popular funky 70's rhythm sound

Start out by adding the AW-2 Auto Wah to put a modulation wah on your sound. You can minimize annoying sound dropouts and different levels, using the

CS-3 Compressor. To sharpen and tighten up the sound, use the PQ-4 to cut mids and boost highs slightly. If you're looking for a funkier, more psychedelic sound, add some phasing via the PH-2 Phaser.

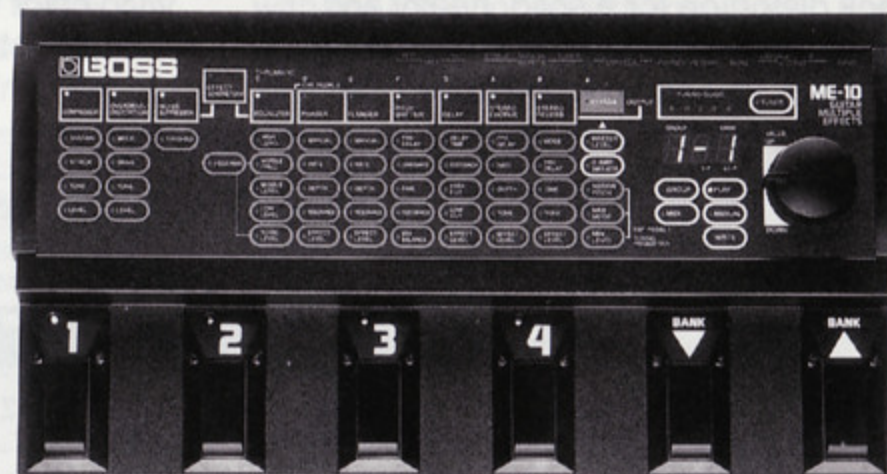


MULTIPLE EFFECTS

The ME-10 integrates 13 professional-quality effects into an exceptionally easy-to-use floor unit that satisfies the most demanding guitarist playing any style of music.

13 EFFECTS

- COMPRESSOR
- OVERDRIVE
- DISTORTION
- NOISE SUPPRESSOR
- 3BAND EQUALIZER
- WAH
- PHASER
- FLANGER
- PITCH SHIFTER
- DELAY
- STEREO CHORUS
- STEREO REVERB
- GUITAR AMP SIMULATOR



ME-10

Guitar Multiple Effects

- Four analog Overdrive/Distortion modes from warm distortion to massive, solid distortion.
- The Noise Suppressor maintains all your sound's original tonal nuances while eliminating noise.
- A Guitar Amp Simulator allows direct line-level connections.
- The ME-10's digital effects use a 24-bit Digital Signal Processor (DSP) for outstanding performance that equals dedicated rackmount units.

The Pitch Shifter, Delay, Chorus and Reverb can all be used simultaneously.

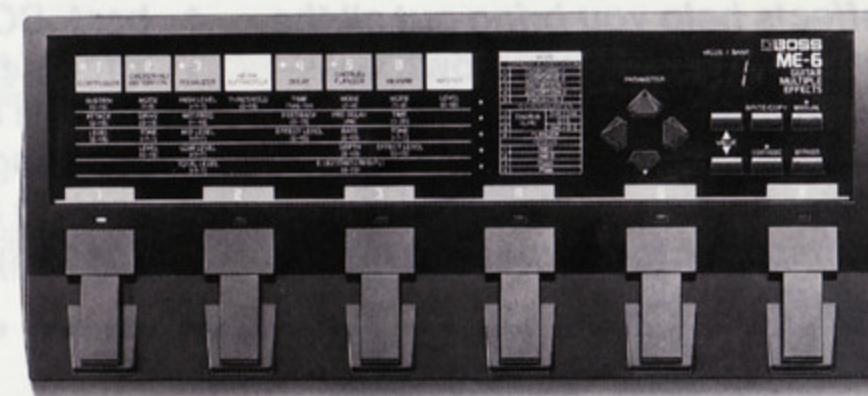
- Built-in Chromatic Tuner.
- Configure effects settings to a Patch, and store up to 128 Patches. Units connected to the send/return loop can also be configured as a Patch for automated control.
- Manual mode allows on/off switching of each effect independently.
- Two expression pedal jacks for realtime control of different effect parameters.

Integrating multiple effects and footswitches in one durable unit, the new BOSS Multiple Effects products open up new dimensions for guitarists.

The ME-6 combines nine most frequently used effects for guitarists in a highly cost-effective unit.

9 EFFECTS

- COMPRESSOR
- OVERDRIVE
- DISTORTION
- NOISE SUPPRESSOR
- 3BAND EQUALIZER
- DELAY
- CHORUS
- FLANGER
- REVERB



ME-6

Guitar Multiple Effects

- The ME-6's Overdrive/Distortion uses analog circuitry and features five different modes from warm, natural overdrive to hard, metallic distortion.
- Delay and reverb can be used simultaneously.
- Chorus achieves a wide range of effects, from subtle to radical.
- The Noise Suppressor maintains all your sound's original tonal nuances while eliminating noise.
- The ME-6 has 25 preset Patches for

immediate access. You can also customize sounds by adjusting parameters to your liking.

- Even when you switch from a Patch with a long delay to one with no delay, the delay decays smoothly without annoying sound dropouts.
- Manual mode allows on/off switching of each effect independently using footswitches.
- Tuner Out jack and Headphone jack.

B BASS EFFECTS

Dedicated effects designed especially for bass

Designed to produce superb-sounding bass sounds, these effects help you bring out all the strong points of your own bass-playing style. The tonal range and characteristics of basses are different from guitars. Using guitar effects on your bass will

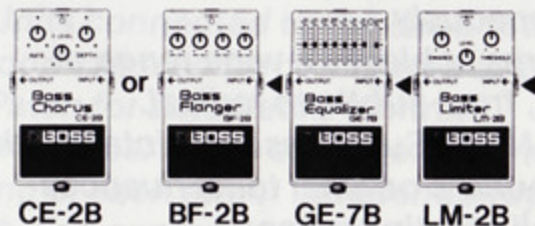
- usually make your sound muddy,
- losing the power and clarity that's
- so much a part of good bass
- sound. To help you sound your
- best, BOSS developed bass
- effects that just affect the har-
- monics of bass sounds without
- affecting the fundamental. This
- section introduces BOSS effects
- specially designed for bassists.



Combine bass effects for total command of a versatile bass sound

Connect the five BOSS effects units as shown. The LM-2B evens out dynamic levels when slapping and is essential for recording. Using two GE-7Bs precisely shapes your sound and makes it dynamic. This combination is equal to the most sophisticated bass preamps. Other effects should be connected at the end of the chain. For a more spacious

sound and for soloing, use chorus. For more power and a harder sound, a flanger is recommended.



LM-2B

Bass Limiter

Designed especially for bass guitar, the LM-2B produces consistent, distortion-free sound across the wide dynamic range spectrum of the bass guitar. In addition to featuring exceptionally quick response for popping and slapping, the LM-2B's enhancer function adds more clarity, presence and power to overall sounds.

USING THE LM-2B



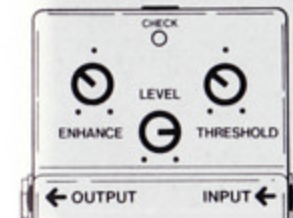
For clear, punchy bass sounds:

Makes your bass playing cut through the band.



Standard setting:

Set the ENHANCE to 0 and THRESHOLD to a moderately high level.



For fingerstyle playing:

To balance the sound, turn the THRESHOLD up for a strong limiter effect.

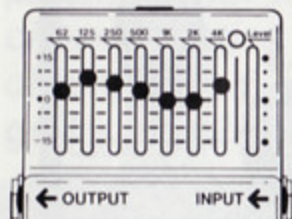


GE-7B

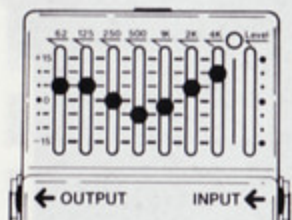
Bass Equalizer

The GE-7B features high-quality equalization over seven frequency bands—from as low as 62Hz all the way up to 4kHz. This wide range of control lets you precisely tailor your bass guitar sound by cutting or boosting any of the frequencies by up to ± 15 dB. The GE-7B can also be used to eliminate unwanted feedback.

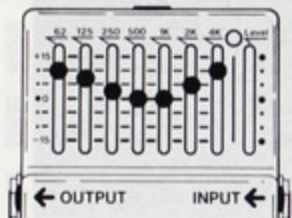
USING THE GE-7B



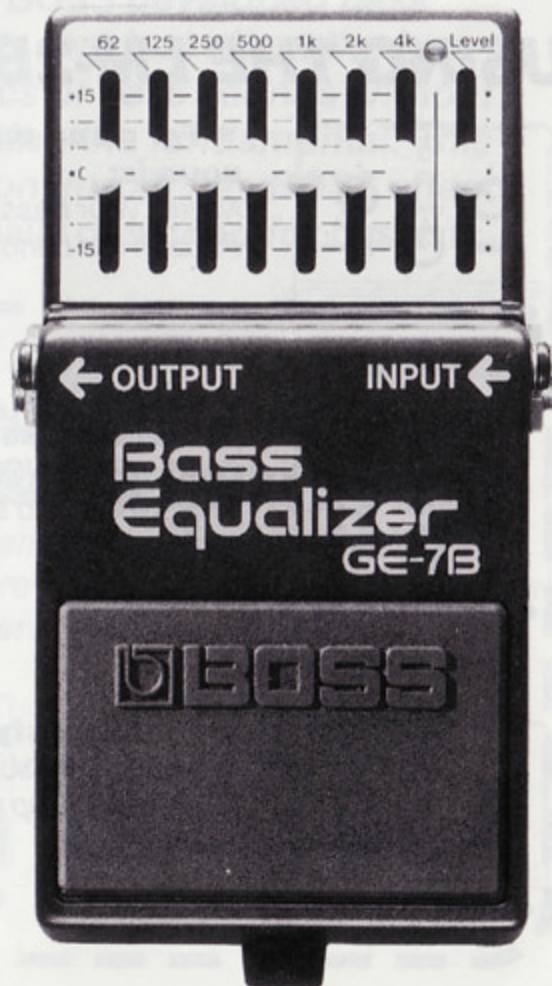
- **To produce a powerful bass sound:**
Boost the lows and mids at the 250Hz to 125Hz frequency range.



- **For a lively slapping sound:**
Boost the lower frequency bands from 62 to 125Hz. Boost the higher frequencies around 4kHz to create a sharper sound.



- **For heavy metal:**
Boost the lower frequencies at 62Hz and the higher frequencies at 4kHz.



CE-2B

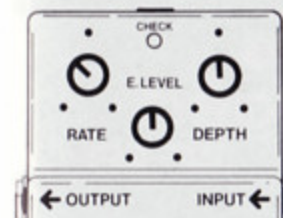
Bass Chorus

The CE-2B produces a spacious chorus effect without altering the natural low end of the bass guitar. This is because the CE-2B only processes the harmonics of the sound, leaving the fundamental frequencies unaffected. Three controls allow you to tailor chorus effects for various styles, such as popping and slapping or playing with a pick.

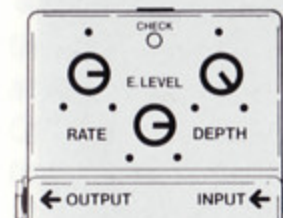
USING THE CE-2B



- **For a thick chorus sound:**
This setting is ideal for popping and slapping or fingerstyle playing.



- **For a light chorus sound:**
Produces a mild chorus effect for regular bass lines.



- **To produce flanger-type sounds:**
Turn the three controls all the way up to produce a strong swirling effect for hard rock sounds.

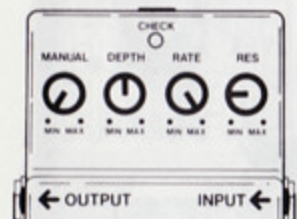


BF-2B

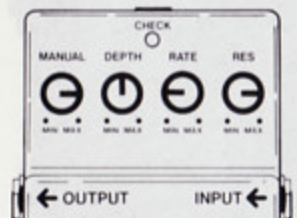
Bass Flanger

When a flanger effect unit for guitar is used with bass, the resulting sound will often be muddy and hard to distinguish from other instrument sounds. The BF-2B is engineered especially for the bass guitar, so it produces an outstandingly clear and distinctive flanging effect while retaining the character of the original sound. Four controls are furnished, allowing you to create a variety of effects.

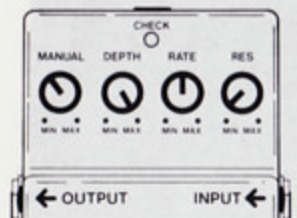
USING THE BF-2B



- **For a vibrato effect:**
Turn MANUAL to minimum and RATE to maximum.



- **To produce a hard flanging sound:**
Raise the RES level for a powerful flange effect suitable for metal.

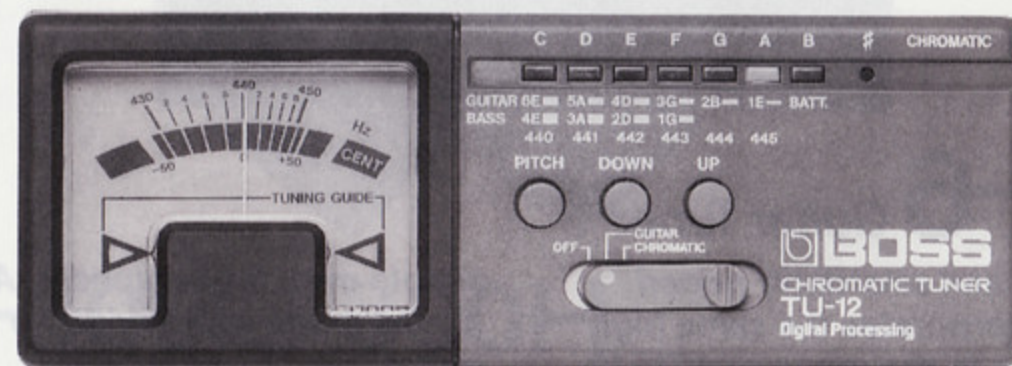


- **For a chorus effect:**
Keep the RES level at minimum for a chorus effect. Reduce the DEPTH level to get a short delay.



ACCESSORIES

The best-selling tuner used by top musicians all over the world



TU-12 Chromatic Tuner

- The TU-12 automatically detects the note you play, displays the note and indicates the tuning status. Offering quick, dependable tuning, the TU-12 is indispensable for any stage or studio musician.
- LED tuning indicators allow at-a-

glance confirmation of correct tuning even on dark or poorly lit stages.

- Different concert pitches in 1Hz increments can be set for tuning. The built-in highly sensitive microphone allows easy tuning of acoustic instruments.

ACCESSORIES

Guitar and bass version of the high-performance TU-12



TU-6 Guitar Tuner

- Compact and affordably priced, the TU-6 incorporates the same high performance as the renowned TU-12.
- Along with exceptionally simple operation, the large, easy-to-see tuning meter makes tuning quick and

simple even for beginners. A separate tuning mode is provided for bass guitar.

- The built-in highly sensitive microphone allows tuning of acoustic guitars.

TU-12H Chromatic Tuner

- The TU-12H features the same high performance as the TU-12, with an extra-wide tuning range from C1 to B6.
- Accommodates a broad range of instruments including strings, brass, woodwinds and ethnic instruments.

Two models for different input impedances

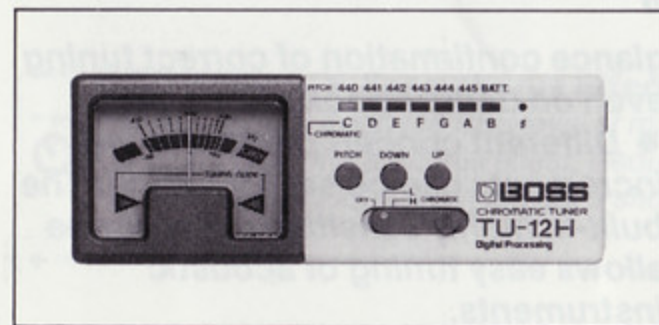


FV-300L/300H

Foot Volume/Expression Guitar/Bass Foot Volume

- The FV-300L and FV-300H maintain the high performance of the FV-Series. The high-impedance FV-300H is optimized for electric guitar and bass and is meant to be connected before effects units. The low-impedance FV-300L is perfect for keyboards or for connecting after effects units.
- Each unit has two inputs and two outputs for accepting stereo signals.

- Using the Minimum Volume knob, you can set minimum volume at any level you desire, and you can conveniently connect a tuner to the Tuner Out jack.
- Combined with the optional PCS-33 Stereo Phone Cable, the FV-300L can also be used as an expression pedal.



ACCESSORIES

A choice of two models depending on input impedance level

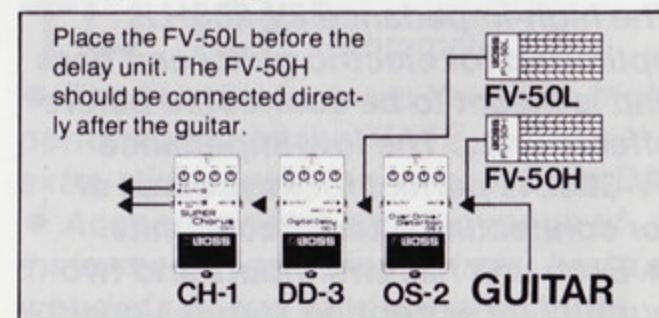


FV-50L/50H Volume Pedal

- When your volume pedal is connected before guitar effect units in the signal chain, choose the FV-50H. High-frequency roll-off is minimized, and the best possible guitar sound is obtained. When the volume pedal is connected after effect units or used for keyboards, the FV-50L is the ideal choice.
- Special 2 in/2 out design enables direct control of stereo keyboards

and stereo effects units.

- The Tuner Out allows speedy tuning on stage.

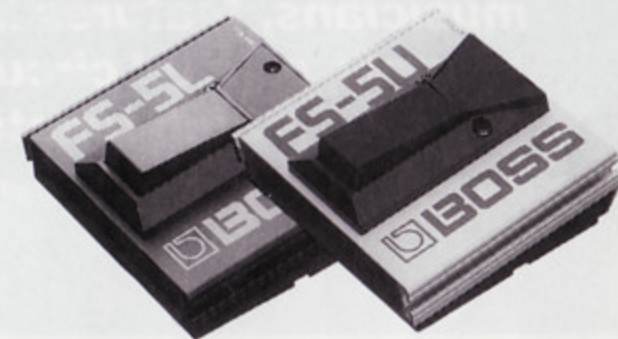


Versatile operation with BOSS quality

- The FS-5U (unlatch type) engages a function while you hold down the switch. The FS-5L (latch type) changes the on/off status each time you press the switch.
- Two or more units can be connected side by side.
- Both units have Polarity switches to match any equipment, even of opposite polarity.
- The FS-5L's LED indicator enables

at-a-glance confirmation of effect on/off status.

- Both have phone jacks for use with any cable length.



FS-5U/5L

Power source for compact effect pedals

PSA-Series



ACA-Series

AC Adaptor Compatibility Chart

▲ACA-Series ●PSA-Series ○PSA-Series with PSM-5/LS-2

SD-1	▲○	CE-5	●○	AW-2	●○	LM-2B	●○
OD-2	▲○	CH-1	●○	FW-3	●○	GE-7B	▲○
DS-1	▲○	BF-2	▲○	CS-3	▲○	CE-2B	▲○
DS-2	●○	PH-2	▲○	OC-2	▲○	BF-2B	▲○
OS-2	●○	PN-2	●○	PS-2	●○	TU-12	●○
MZ-2	●○	GE-7	▲○	NS-2	●○	TU-12H	●○
MT-2	●○	PQ-7	●○	LS-2	●○	FC-50	●○
DD-3	●○	EH-2	●○				

PRO SERIES

The BOSS PRO Series offers the cutting edge in half-rack effect units. Geared toward professional musicians, features include an ultra-quiet power supply, refined circuitry and carefully selected high-function components.

SE-50 Stereo Effects Processor



The convenience of a multi-effects unit but with the quality of multiple dedicated units

- Features 28 preset algorithms based on 19 built-in effects, optimizing the character and

performance of each effect. Both single-effect algorithms and multi-effects algorithms are provided.

- Single effect algorithms useful high-quality effects for many applications.
- Multi-effect algorithms include combinations of similar effects used simultaneously such as five delay lines, as well as combinations of different types of effects for specific applications such as Keyboard Multi, Guitar Multi and Vocal Multi.

Exceptional sound quality and versatile functions

- A pair of 16-bit A/D and D/A converters are furnished. Sampling rates are 48kHz or 32kHz depending on the effect used.
- Two-In/Two-Out design accommodates a broad range of applications, including discrete individual effects processing and the ability to main-

EFFECTS

1	REVERB (REV)	11	NOISE SUPPRESSOR (NS)
2	AMBIENCE	12	ROTARY
3	GATE REVERB	13	EQUALIZER (EQ)
4	DELAY (DLY)	14	PANNING (PAN)
5	CHORUS (CHO)	15	COMPRESSOR (COMP)
6	PITCH SHIFTER	16	OVERDRIVE/DISTORTION (OD/DS)
7	FLANGER	17	LINE DRIVER (LD)
8	GATE	18	LIMITER (LM)
9	PHASER (PH)	19	ENHANCER (EH)
10	VOCODER		

ALGORITHM TABLE

ALGORITHM No.	ALGORITHM NAME	EFFECT NAME
1	HALL 1	REVERB
2	HALL 2	REVERB
3	ROOM	REVERB
4	PLATE	REVERB
5	AMBIENCE	AMBIENCE
6	GATE REVERB	GATE REVERB
7	STEREO REVERB	REVERB
8	MULTI DELAY	DELAY x 5
9	MULTI TAP DELAY	TAP DELAY x 5
10	STEREO DELAY	STEREO DELAY
11	SPACE CHORUS	SPACE CHORUS
12	PITCH SHIFTER	PITCH SHIFTER x 4
13	ST. PITCH SHIFTER	STEREO PITCH SHIFTER
14	STEREO FLANGER	FLANGER + GATE
15	STEREO PHASER	PHASER
16	VOCODER	VOCODER + CHO + NS
17	ROTARY	ROTARY + NS
18	KEYBOARD 1	EQ + DLY + CHO + REV
19	KEYBOARD 2	PH + EQ + CHO + REV
20	RHODES	EQ + PH + NS + CHO + PAN + REV
21	GUITAR MULTI	COMP + OD/DS + EQ + NS + DLY + CHO + REV + LD
22	VOCAL MULTI	LM + EH + NS + DLY + CHO + REV
23	STEREO ENHANCER	LM + EH + NS
24	2CH MIXER	EQ + NS + REV/DLY/CHO
25	REVERB 1 + REVERB 2	REVERB + REVERB
26	GATE REVERB + REVERB	GATE REVERB + REVERB
27	CHORUS + REVERB	CHORUS + REVERB
28	DELAY + REVERB	DELAY + REVERB

tain the integrity of stereo signals.

- 100 user memory locations are provided for storing customized effects.
- Fully MIDI compatible, algorithm selection and user memory can be controlled by an external MIDI device using program change messages.
- Customized effect settings can be bulk-dumped for external storage.

FC-50 MIDI Foot Controller



- When connected to the SE-50, the FC-50 allows you to recall effect settings instantly by depressing the pedal.

- Two Expression pedal jacks and two foot pedal jacks enable you to change volume or parameters using your foot.

RAD-50 Rack Mount Adaptor



NS-50 Stereo Noise Suppressor



Minimizes noise while preserving the original sound quality

- The NS-50 incorporates BOSS's unique downward expanding system employing a high-performance VCA and a high-speed envelope detection circuit. Unlike conventional noise suppressors that use filters, noise is suppressed without affecting the

GE-21 Graphic Equalizer



High-quality 21-band equalizer suitable for instruments and sound reinforcement gear

- The GE-21 provides 21 frequency bands that cover a range from 22Hz in 1/2-octave increments. Each band features a variable range of $\pm 15\text{dB}$, enabling precise adjustment of tonality. The GE-21 is ideal for instrument

tonality of the original sound.

- The stereo in/out design accommodates instruments with stereo output such as a keyboard.
- When used in guitar applications, an effects loop connection is provided so that noise reduction is conducted regardless of the settings of external effects units. The single-ended design makes the NS-50 ideal for use in keyboard or mixer applications.
- The 8-point Gain Reduction LED provides at-a-glance monitoring of noise reduction levels.
- The Remote jack allows foot control of noise reduction on/off status.

sounds as well as PA applications.

- The GE-21 features uncompromising design, for sound quality that enables direct connection to a master out for final equalization. Carefully selected components and refined circuits are employed, and strict hearing tests were conducted. This results in residual noise of only -100dBm (IHF-A), and THD of less than 0.01%.
- The Total Level Control allows level adjustment of up to $\pm 15\text{dB}$, balancing the level between EQ and bypass modes.
- The Remote jack allows on/off EQ switching by foot.

CL-50 Compressor Limiter



Integrated compressor/limiter and noise gate

- Thanks to the high-performance VCA and high-speed envelope detection circuit, outstanding sound quality and quick response are achieved. This is evidenced by an attack time of $50\mu\text{s}$, frequency response of 5Hz to

EH-50 Stereo Enhancer



A stereo enhancer that makes any instruments stand out

- The EH-50 processes only the harmonic components present in the input signal for greater clarity and brilliance. This gives vocals lots of presence, and allows guitar to come through. Sounds that are muddy after being processed through several

35kHz, THD of less than 0.05%, and residual noise of only -98dBm (IHF-A).

- Even when synthesizers or vocals with wide dynamic range are processed, there is negligible distortion or change in tonality. The subtle tonal nuances of acoustic sounds are fully retained.
- The noise gate function reduces noise.
- When two CL-50s are connected through the Stereo Link jack, compression levels of both units can be simultaneously adjusted from the controls of one unit.

effects units become more prominent and regain clarity. The EH-50 enhances mids and lows as well as highs so you can tighten up bass and drum sounds.

- The degree of enhancement can vary depending on input signal dynamics. This means that you can stress attack transients that add presence to the sound, which is ideal for drums and popping and slapping bass techniques.
- The EH-50 has five selectable enhance modes and an Effect Level control for selecting desired effect intensity with an Enhance Level indicator.

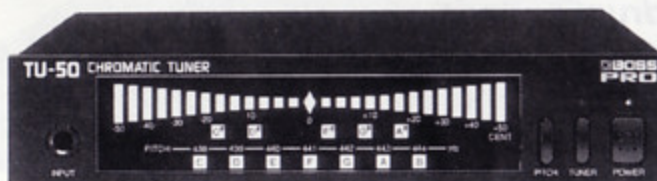
PQ-50 Parametric Equalizer



More flexibility with 4-band parametric EQ

- The PQ-50 has discrete EQ bands for Low, Low-Mid, High-Mid, and High.
- Overall frequency range extends over a full 20Hz to 20kHz bandwidth and each band has a ± 20 dB adjustment range for precise sound

TU-50 Chromatic Tuner



Simple but precise tuning on dark stages

- Meeting professional requirements for live performance, the rackmount TU-50 features a large LED bar tuning meter for easier, faster tuning, even from across the stage.
- The TU-50 automatically detects

contouring.

- Two selectable EQ curves are provided for high and low bands. Peaking EQ is for accurate boost or cut at a specific frequency range. Shelving EQ is for overall tonal contouring.
- Strict listening tests and parts selection give the PQ-50 professional sound quality with a residual noise level of -97 dBm and Total Harmonic Distortion less than 0.03%.
- Input/output level sensitivity can be switched between -10 dBm and $+4$ dBm to accept instruments or pro line-level inputs.

and displays the input signal pitch over 7 octaves. Concert pitch adjustments are in 1Hz increments from 438Hz to 444Hz to allow the TU-50 to be used in any situation.

- When the tuner function is switched off, the TU-50 functions as an input level meter.
- By connecting an optional FS-5L Footswitch to the TU-50, you can switch the tuner on/off via remote control.



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